

REMARKS

This amendment is submitted in response to the Official Letter, Paper No. 4, dated April 25, 2003. Twenty-one (21) claims are pending and remain for consideration. All objections and rejections are respectfully traversed. Reconsideration of the pending claims is respectfully requested.

IN THE CLAIMS35 U.S.C. § 112

The Examiner rejected claims 7-11 under 35 U.S.C. § 112, first paragraph, stating that the specification "does not reasonably provide enablement" for the bushing system of claim 7. The Examiner suggests the claimed bushing system would not function in the absence of disclosed elongate divergent surfaces 44. This rejection is respectfully traversed.

In accordance with 35 U.S.C. § 112, first paragraph, the specification should contain a written description of the invention, in full, clear, concise, and exact terms sufficient to enable one skilled in the art to make and use the invention. The specification contains a written description of the invention, which is a bushing body 12 having opposing end plates 16 and a screen 14 within the body, wherein the screen has opposing ends 26, each having an upper portion 28 attached to an end plate 16 and a lower portion 30 spaced apart from the end plates 16 (see page 6, line 11 through page 7, line 1 and Fig. 2). The written description is in full, clear, concise, and exact terms, as required by 35 U.S.C. § 112. Consequently, the rejection of claim 7 in this regard is improper.

With regard to the function of claim 7, the transition bridging the preamble and the body of the claim is provided by the term "comprising". It is well settled in patent law that this term is construed to mean "including the following elements but not excluding others". Consequently, the system in claim 7 may function in the desired manner with additional elements that are not specifically recited in the claim. The claim need not recite the additional elements but only recite the elements of the

invention and describe how those elements structurally, physically, or functionally cooperate with each other to make up the invention. The elements of the invention are a bushing body with end plates and a screen with opposing ends, each having upper and lower portions. The cooperation of these elements is clearly described, as required, in the claim, which states that the screen is "within" the bushing body and the upper portions of the screen ends are attached to the bushing body end plates and the lower portions are "spaced apart" from the end plates. The recitation of the elongate divergent surfaces 44 in the claim, as suggested by the Examiner, is unnecessary. Reconsideration of the claim in this regard is respectfully requested.

35 U.S.C. § 103

Claims 1-20 are rejected under 35 U.S.C. § 103, as being unpatentable over U.S. Patent No. 3,013,095, to Russell, in view of U.S. Patents No. 6,065,310, to Higginbotham, and 6,272,887, to Sullivan. This rejection is respectfully traversed. Claims 1 and 12 are directed toward a screen having divergent surfaces and opposing edges, which taper downward. Russell discloses converging side walls and canted end walls. However, Russell fails to disclose or teach *a screen*, which is the subject matter of the claimed invention. Instead, Russell discloses a melting compartment or chamber 52 (see col. 3, lines 11-12) and describes the melting chamber in great detail (see col. 4, beginning at line 11, and continuing through col. 5, line 9). The Examiner refers to the melting chamber as a screen but this is contrary to a reasonable interpretation of Russell. Moreover, one of ordinary skill in the art of the invention would distinguish Russell's melting chamber from the claimed screen. A melting chamber is a zone in which preheated bodies (i.e., marbles) are reduced to molten material for delivery to another zone, that is, a feeder (see col. 2, lines 6-8). The two zones are separate (see col. 2, line 23). The melting chamber prevents the passage of the preheated bodies but allows molten material to flow therethrough (see col. 4, lines 70-75). A screen, on the other hand, is provided for thermally conditioning the molten material within the bushing body (see page 1, line 25 of the present application). The

screen serves as a stone catcher and prevents inclusions and impurities from reaching the tip plate of the bushing body (see page 2, lines 5-8). The screen also functions to mix or thermally condition the molten material to improve thermal homogeneity (see page 2, lines 16-25). It is also well-known that a screen functions to carry the load of the molten material and take a load off, or reduce the weight on, the tip plate. These are all functions that are so characteristic of a screen that the recitation of the term "screen" is sufficient to define over the melting chamber of Russell. Since Russell fails to disclose or teach *a screen*, as recited in claims 1 and 12, the rejection of these claims is improper.

In addition, claims 1 and 12 recite outer screen plates having a plurality of holes therein. Even if the melting chamber of Russell could be interpreted as a screen, its end walls 56 have only one orifice 62. The screen of claims 1 and 12 has a plurality of holes. A single hole would not be suitable for mixing the molten material and improving thermal homogeneity. Since Russell fails to disclose or teach an outer screen plate with *a plurality of holes*, as recited in claims 1 and 12, the rejection of the claims is improper.

Claims 7 and 12 recite a screen within a bushing. Russell fails to disclose or teach a screen *within* a bushing. As stated above, Russell discloses a melting chamber 52. The Examiner refers to the melting chamber as a screen. However, this interpretation is contrary to the teachings of Russell. Even if the melting chamber could be interpreted as a screen, it is not within the bushing body (i.e., feeder 34), as required by claims 7 and 12. In fact, Russell clearly teaches that the melting chamber is separate from the feeder, which teaches away from the invention in claims 7 and 12. Since Russell fails to disclose or teach a screen and, much more, a screen *within* a bushing body, as recited in claims 7 and 12, the rejection of these claims is improper.

Claims 7 and 12 further recite upper portions of screen ends attached to end plates of the bushing body. The melting chamber of Russell is in no manner attached to the end plates. For this additional reason, the rejection of claims 7 and 12 is improper.